OIPE IAP19
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PATENT & TRADEMARK OFFICE

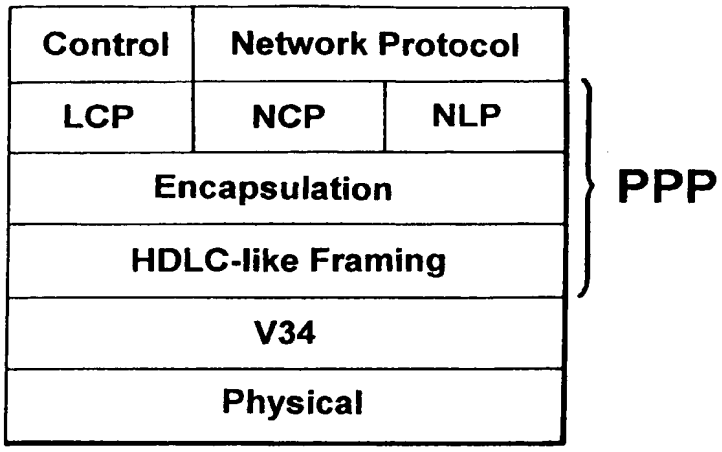

Fig. 1 (Prior Art)

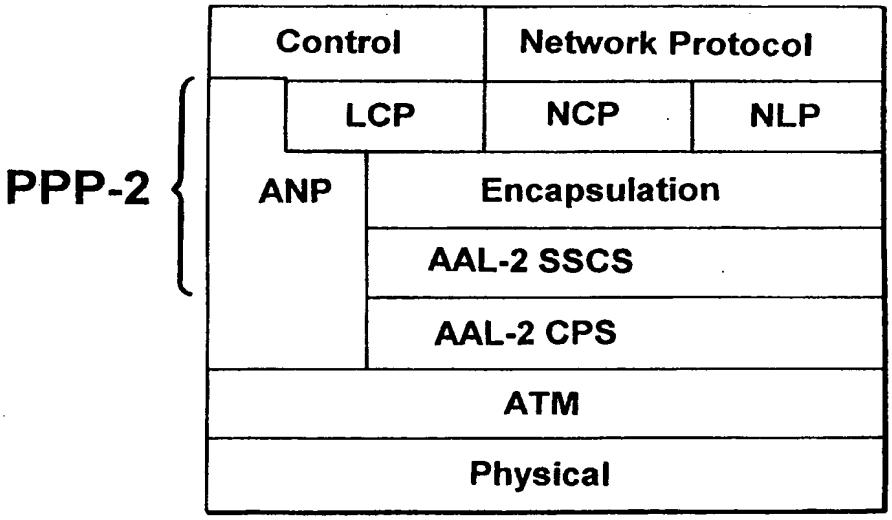

Fig. 4

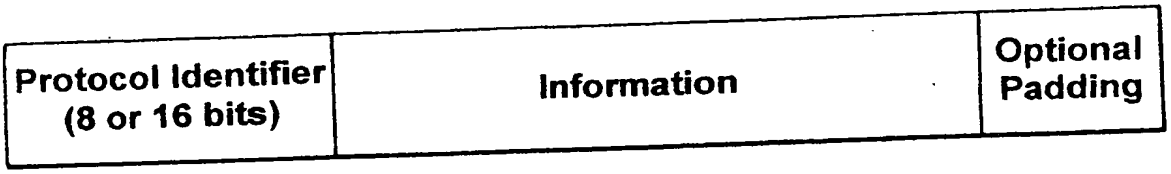

Fig. 2 PPP Format

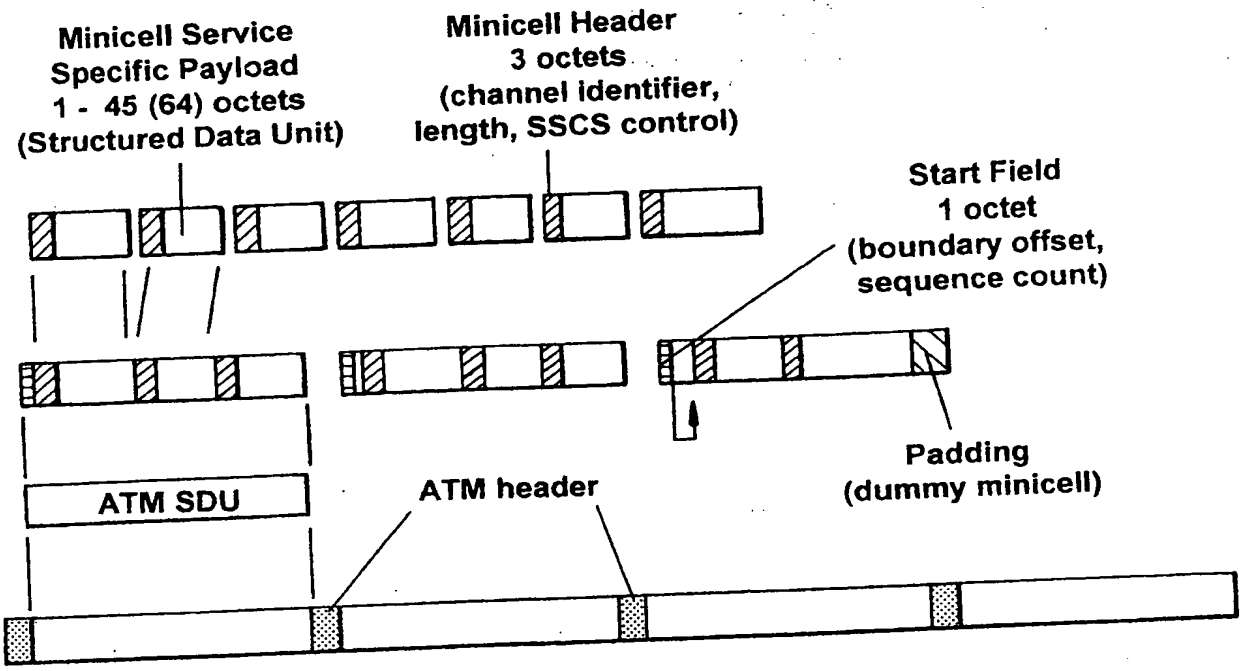

Fig. 3

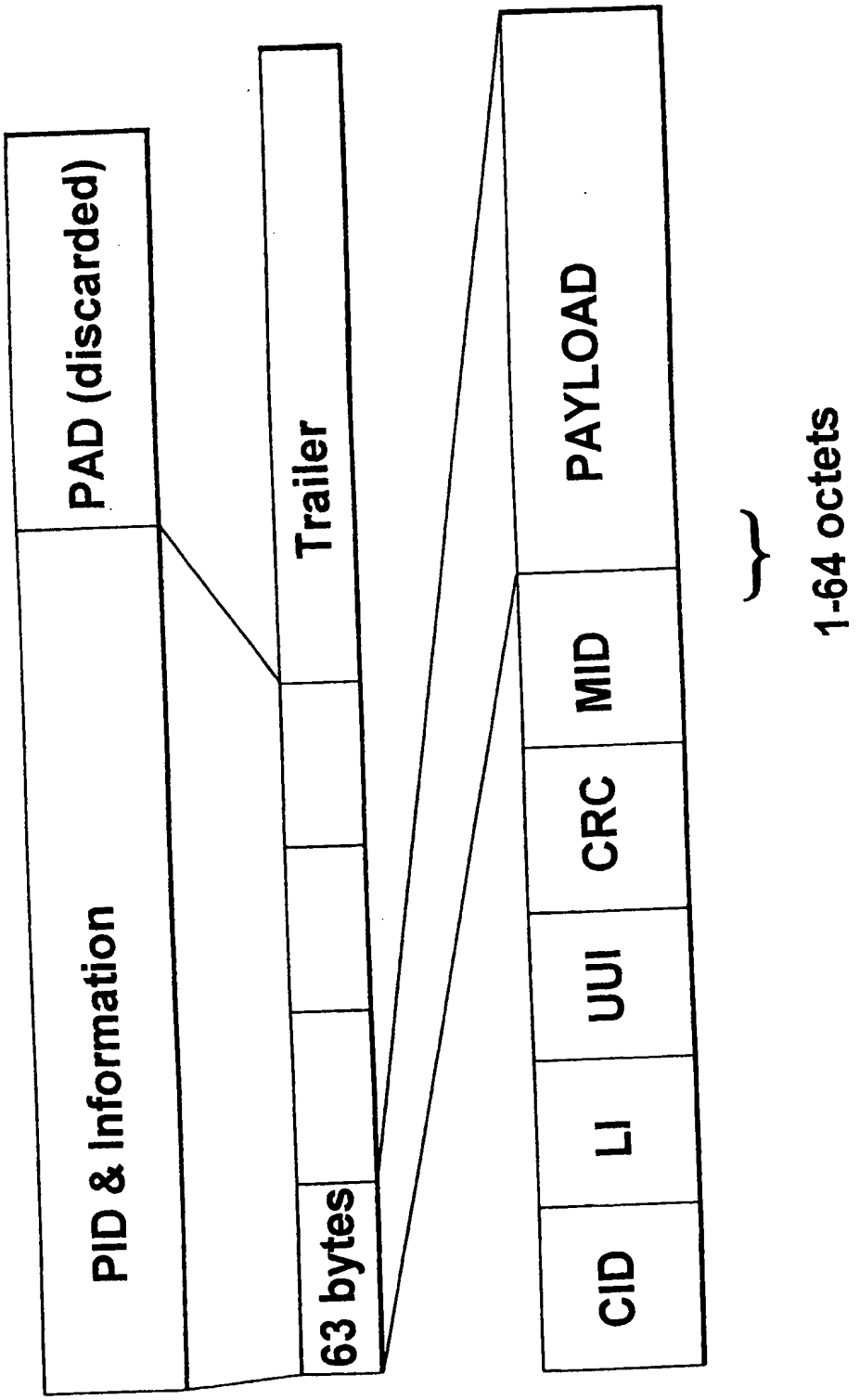
PAD (discarded)
PID & Information
Trailer
63 bytes
PAYLOAD
CID
LI
UUI
CRC
MID
1-64 octets

Fig. 5

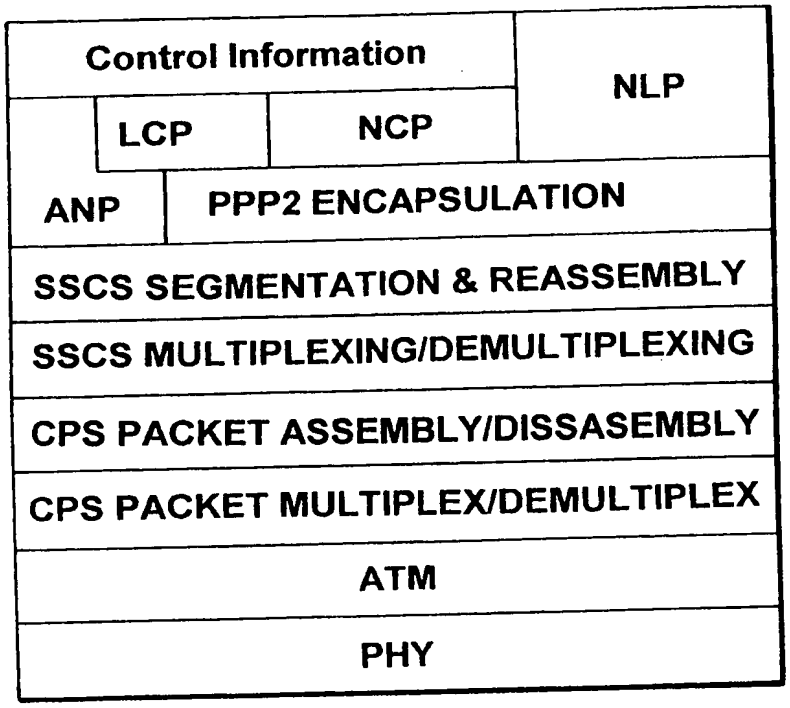
Control Information
NLP
LCP
NCP
ANP
PPP2 ENCAPSULATION
SSCS SEGMENTATION & REASSEMBLY
SSCS MULTIPLEXING/DEMULTIPLEXING
CPS PACKET ASSEMBLY/DISSASEMBLY
CPS PACKET MULTIPLEX/DEMULTIPLEX
ATM
PHY

Fig. 6

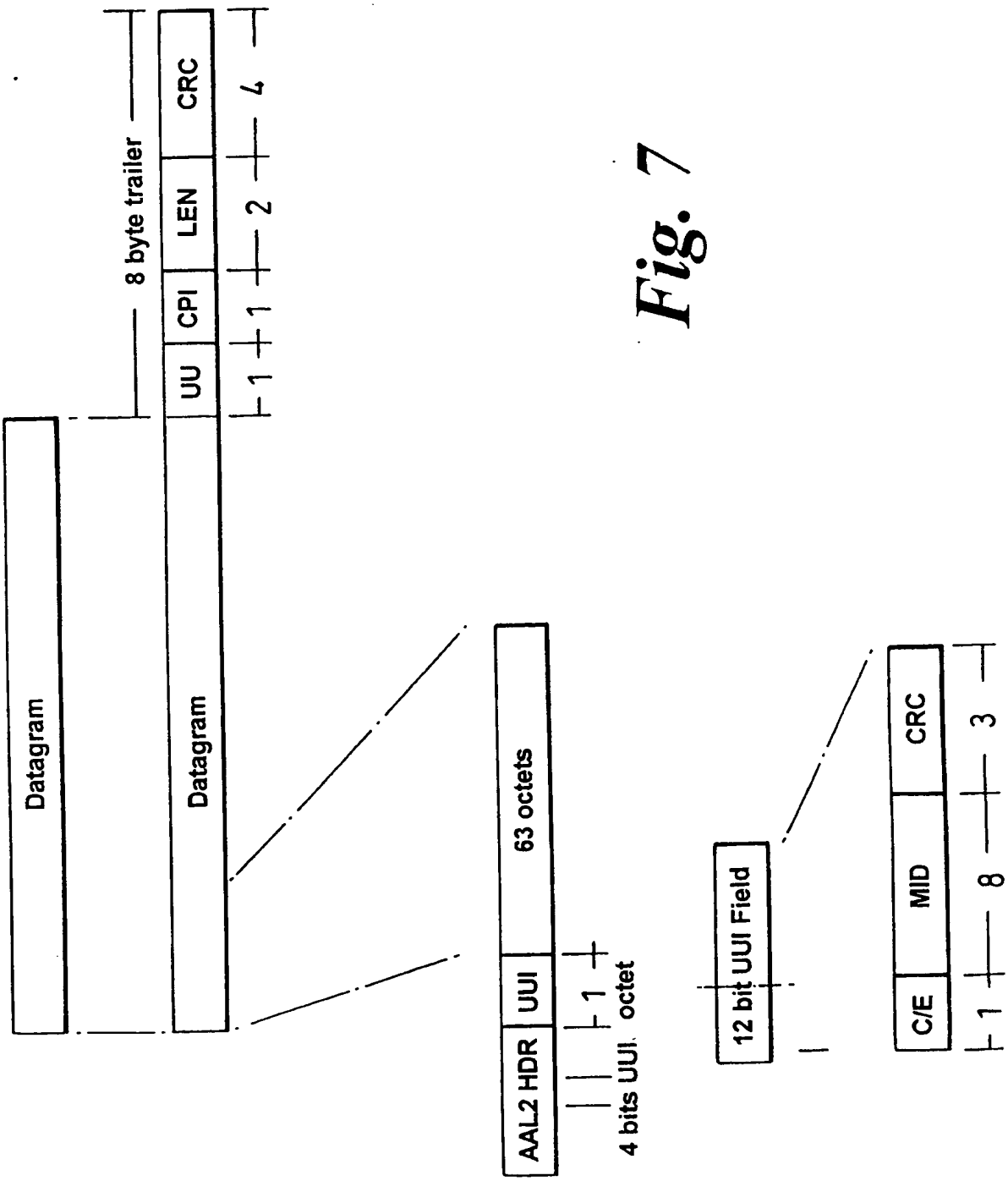
Datagram
Datagram
8 byte trailer
UU
CPI
LEN
CRC
1
1
2
4
AAL2 HDR
UUI
63 octets
1
4 bits UUI octet
12 bit UUI Field
C/E
MID
CRC
1
8
3

Fig. 7

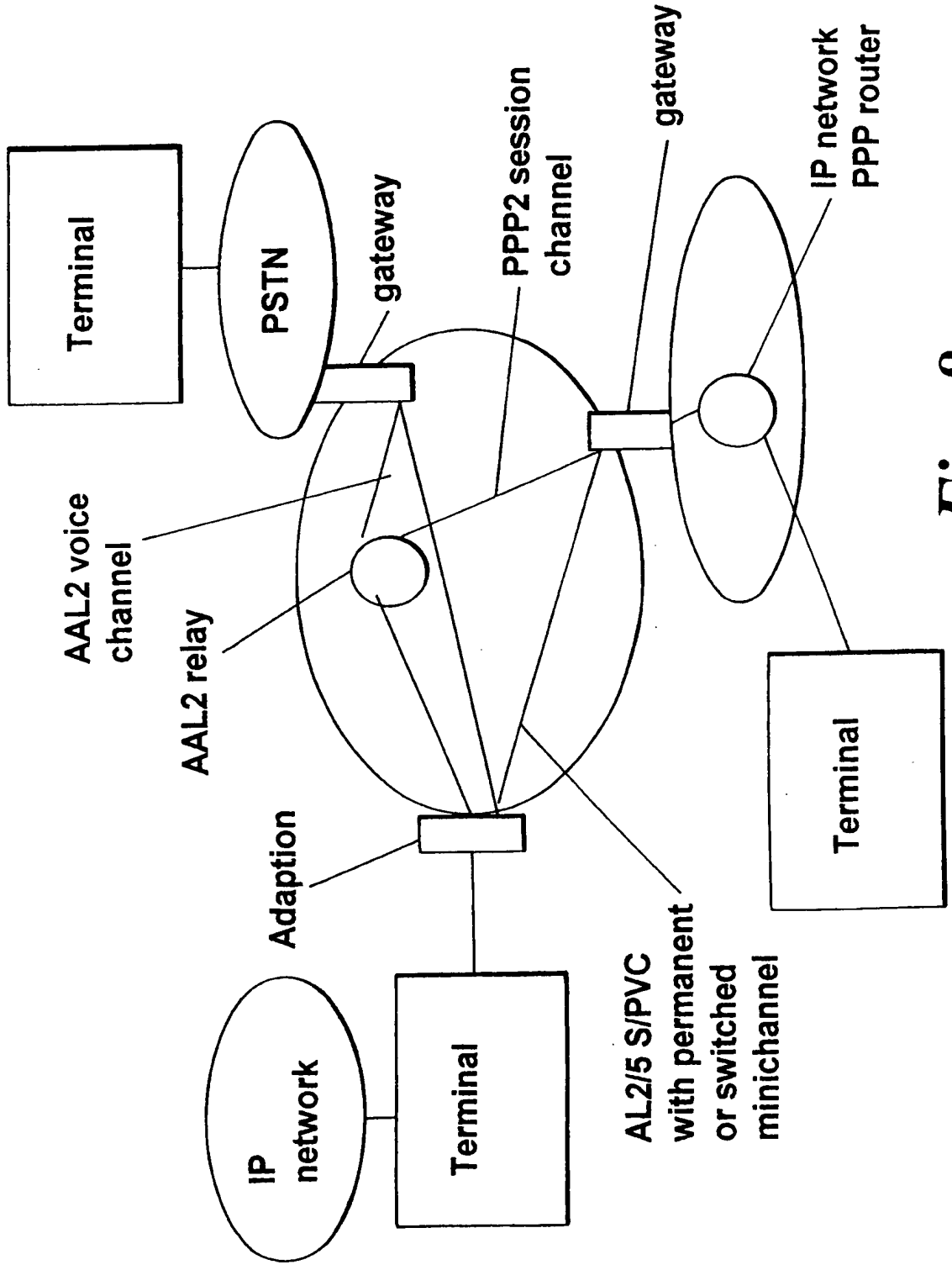
Terminal
PSTN
gateway
PPP2 session channel
gateway
IP network PPP router
AAL2 voice channel
AAL2 relay
Adaption
IP network
Terminal
AL2/5 S/PVC with permanent or switched minichannel
Terminal

Fig. 8

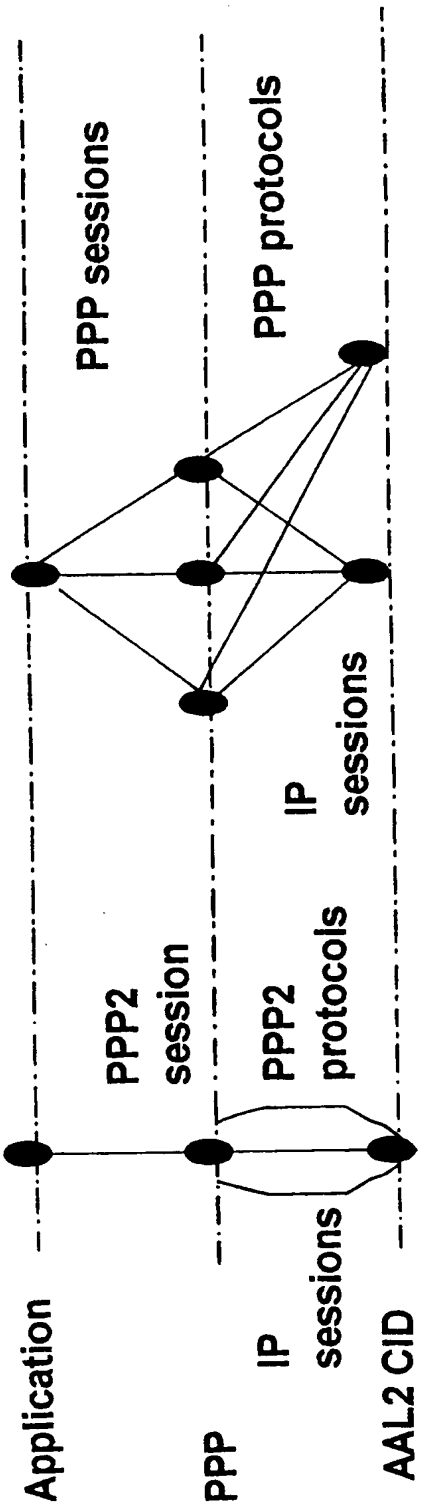
Application
PPP
IP
sessions
AAL2 CID
PPP2
session
PPP2
protocols
IP
sessions
PPP sessions
PPP protocols

Fig. 8a

Fig. 8b

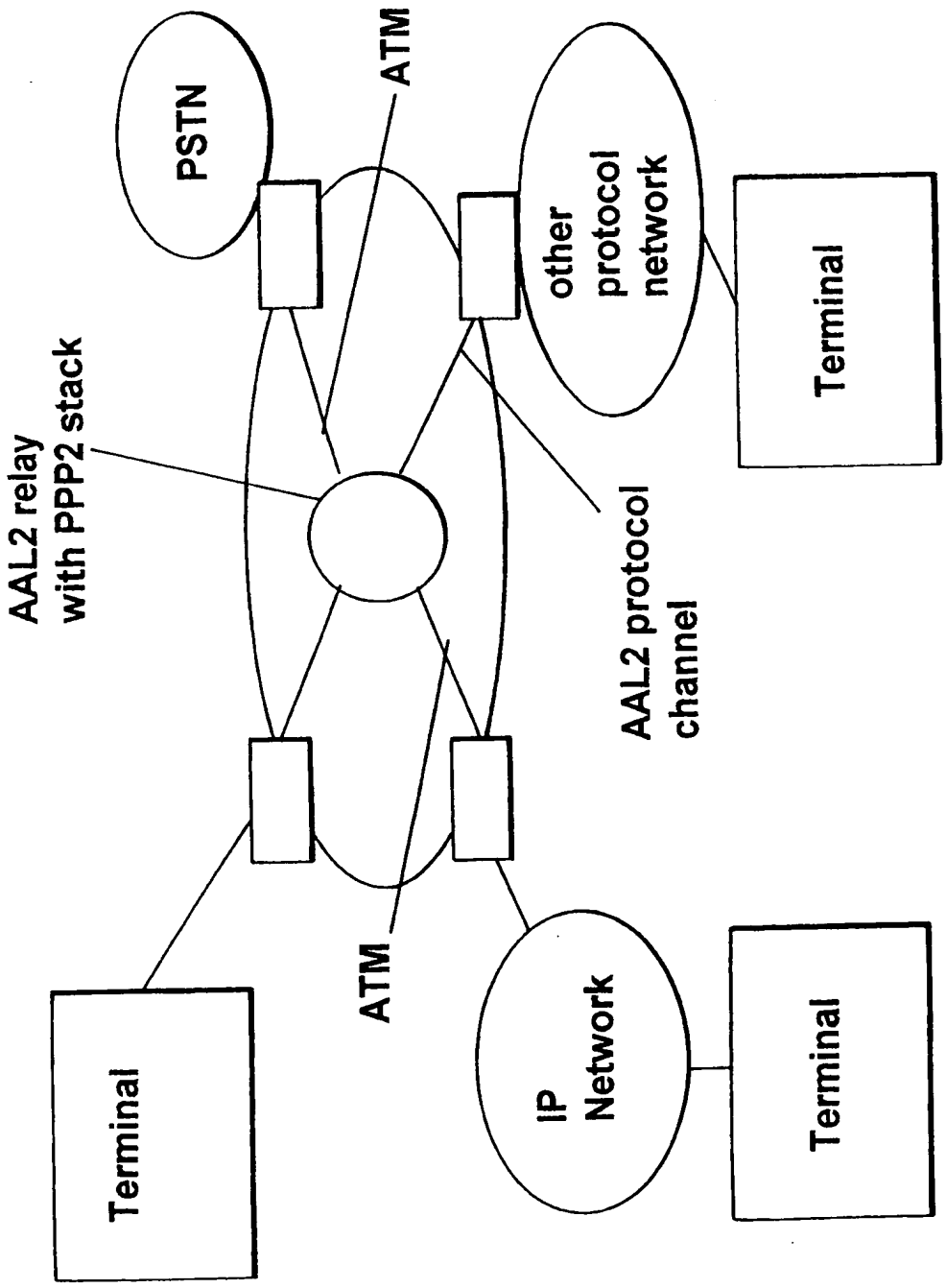
PSTN
ATM
other protocol network
Terminal
AAL2 relay with PPP2 stack
AAL2 protocol channel
ATM
IP Network
Terminal
Terminal

Fig. 9

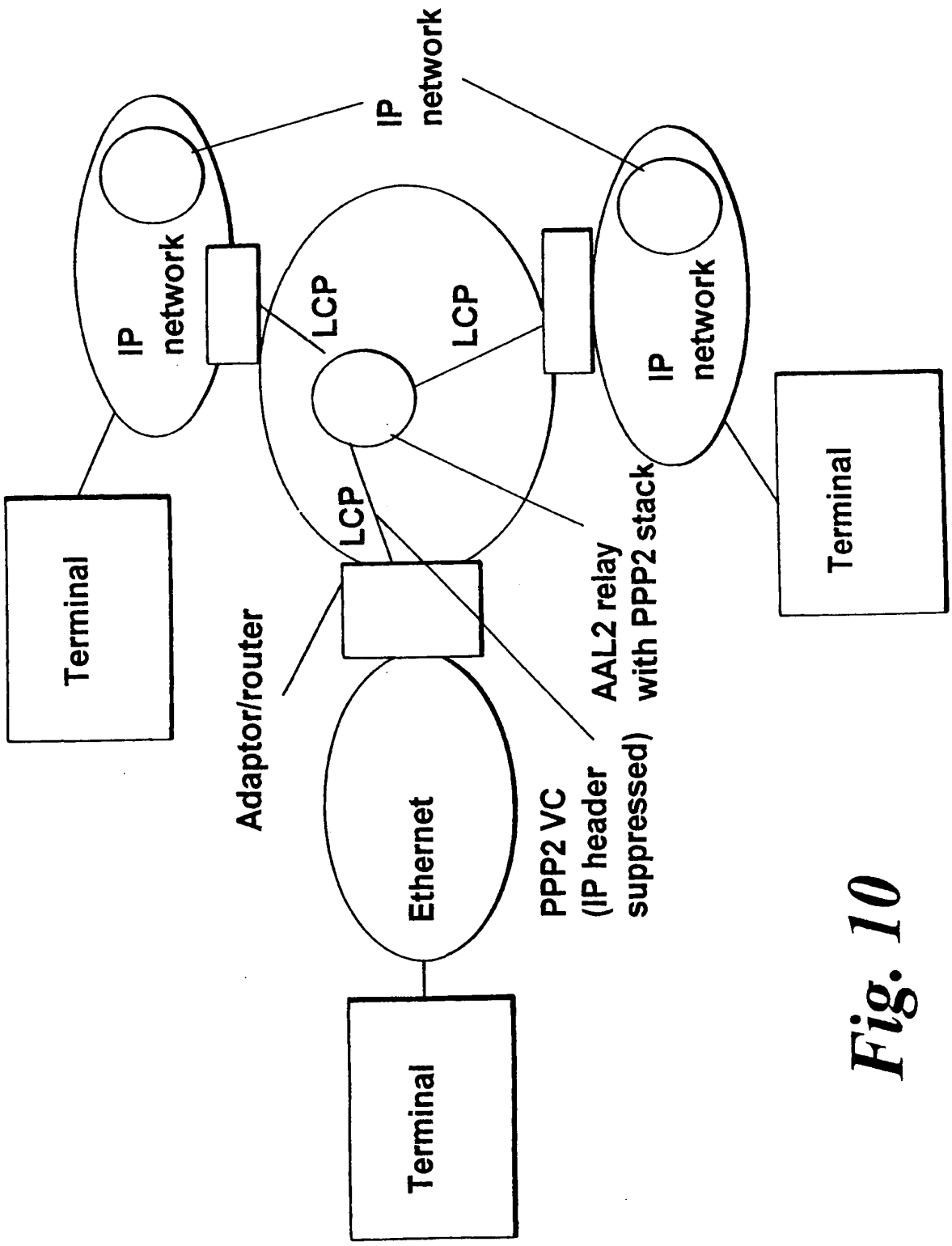
IP network
IP network
IP network
LCP
LCP
LCP
Terminal
Terminal
Terminal
Adaptor/router
Ethernet
PPP2 VC (IP header suppressed)
AAL2 relay with PPP2 stack

Fig. 10

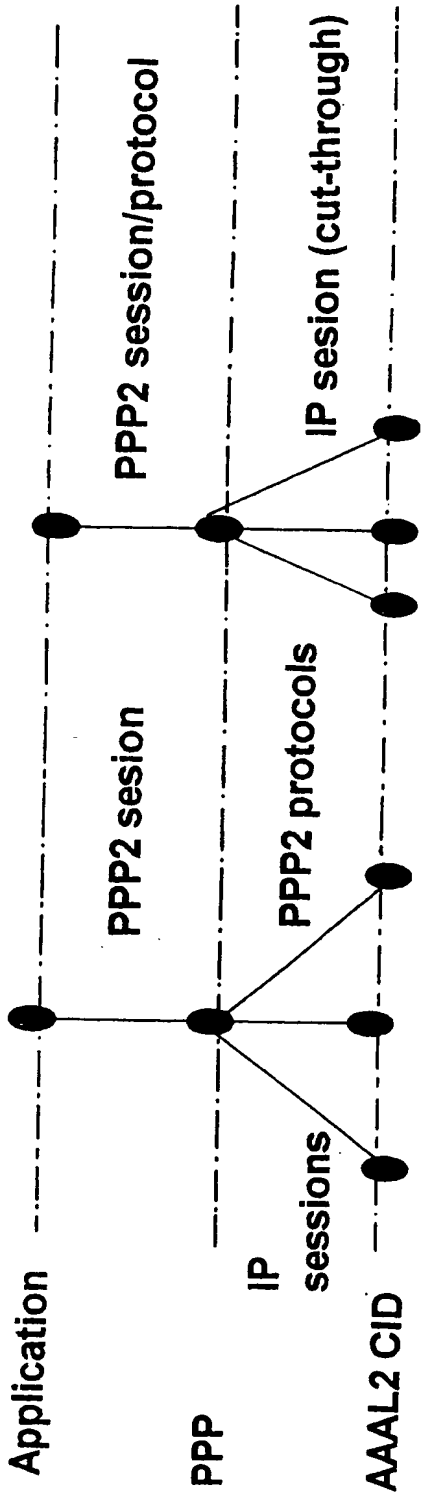

Fig. 9a

Fig. 10a

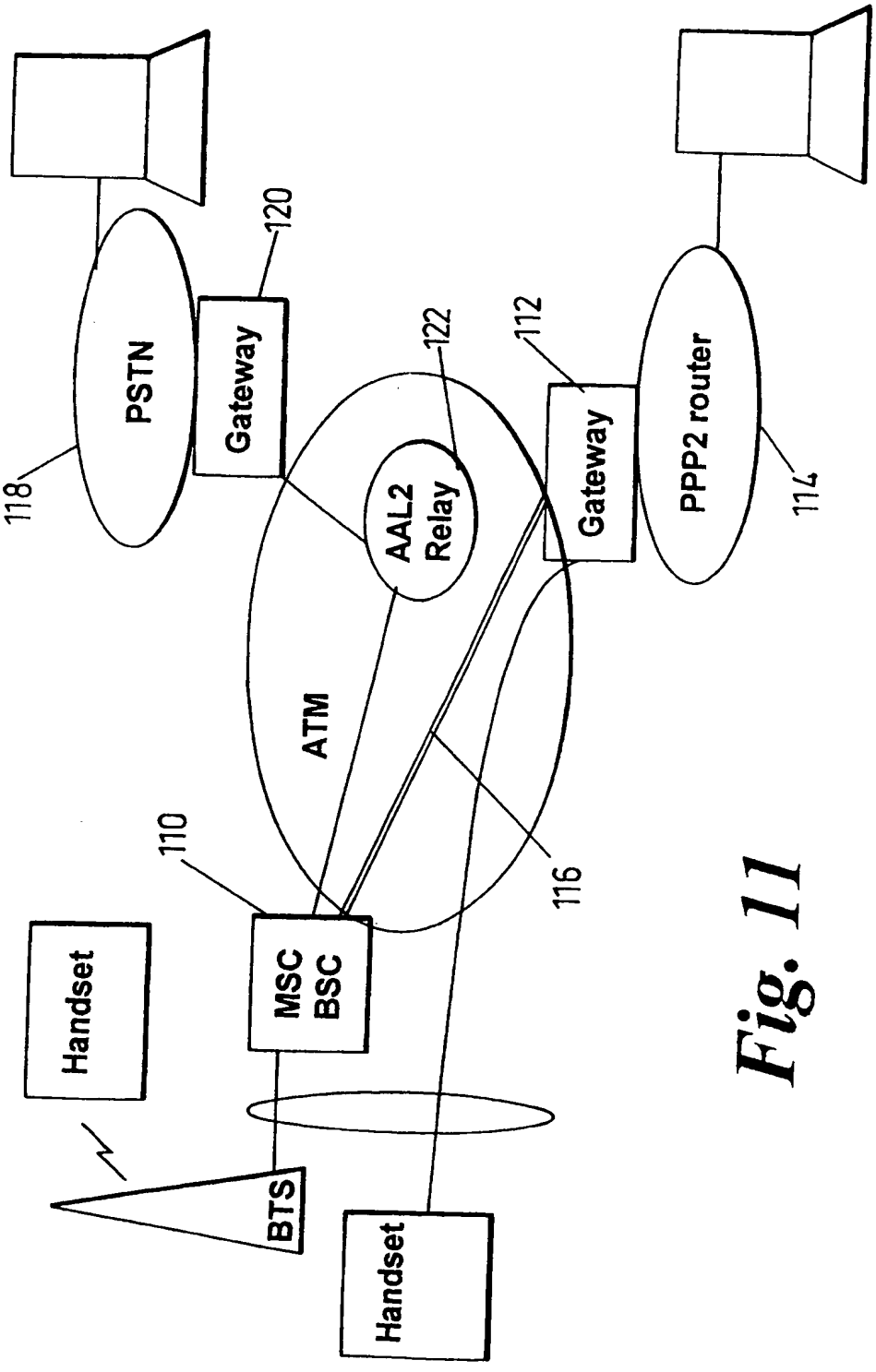
PSTN
Gateway
120
118
122
AAL2
Relay
ATM
112
Gateway
PPP2 router
114
110
MSC
BSC
116
Handset
BTS
Handset

Fig. 11

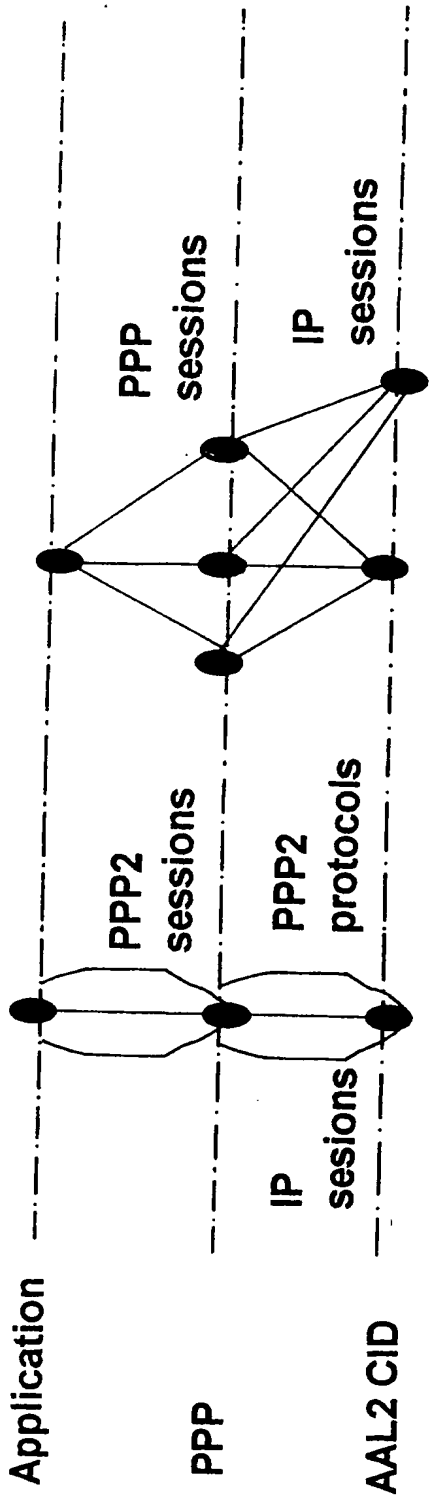

Fig. 11a

Fig. 12a

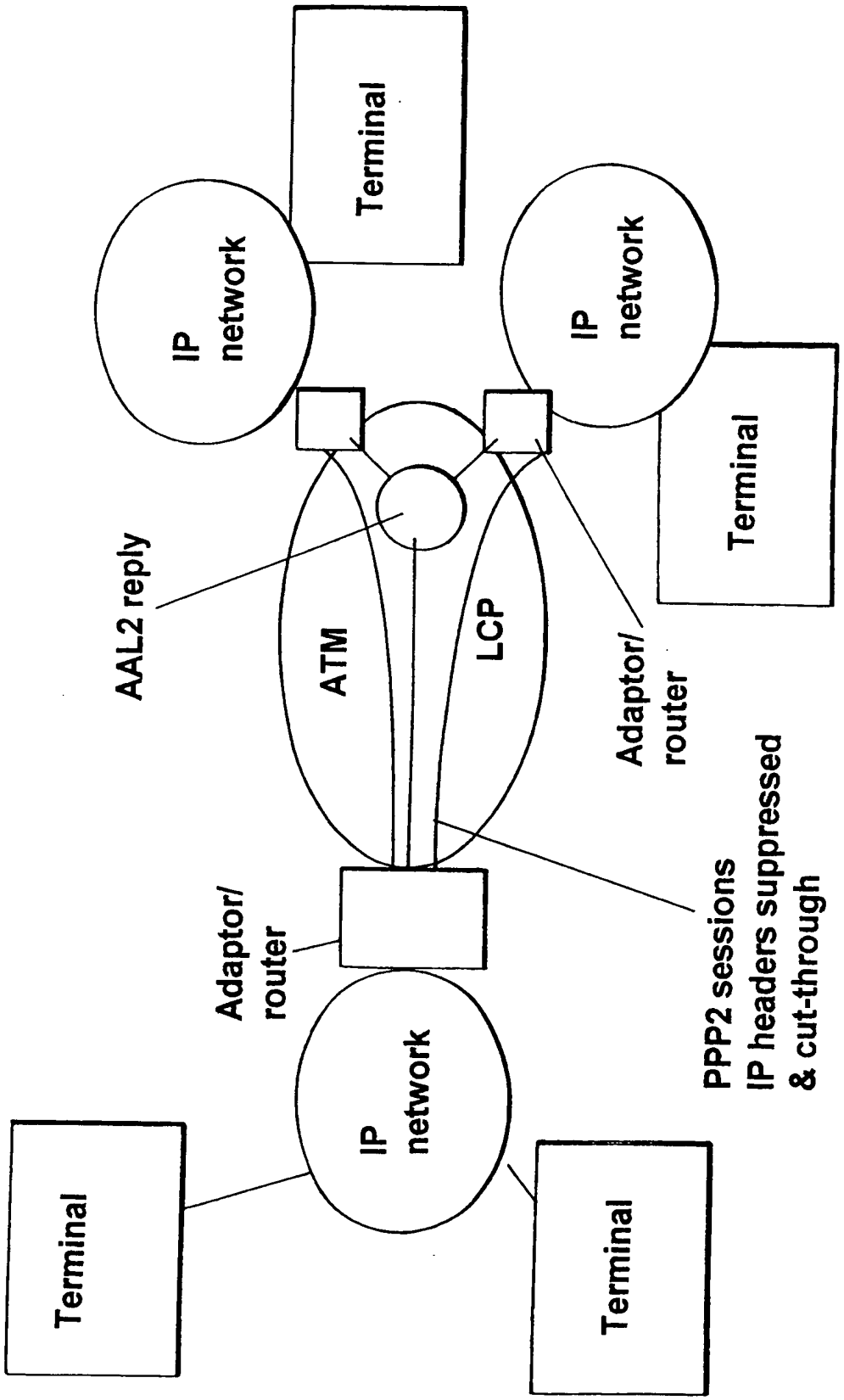
Terminal
IP network
Terminal
IP network
Terminal
AAL2 reply
ATM
LCP
Adaptor/ router
Adaptor/ router
PPP2 sessions
IP headers suppressed
& cut-through
Terminal
IP network
Terminal

Fig. 12

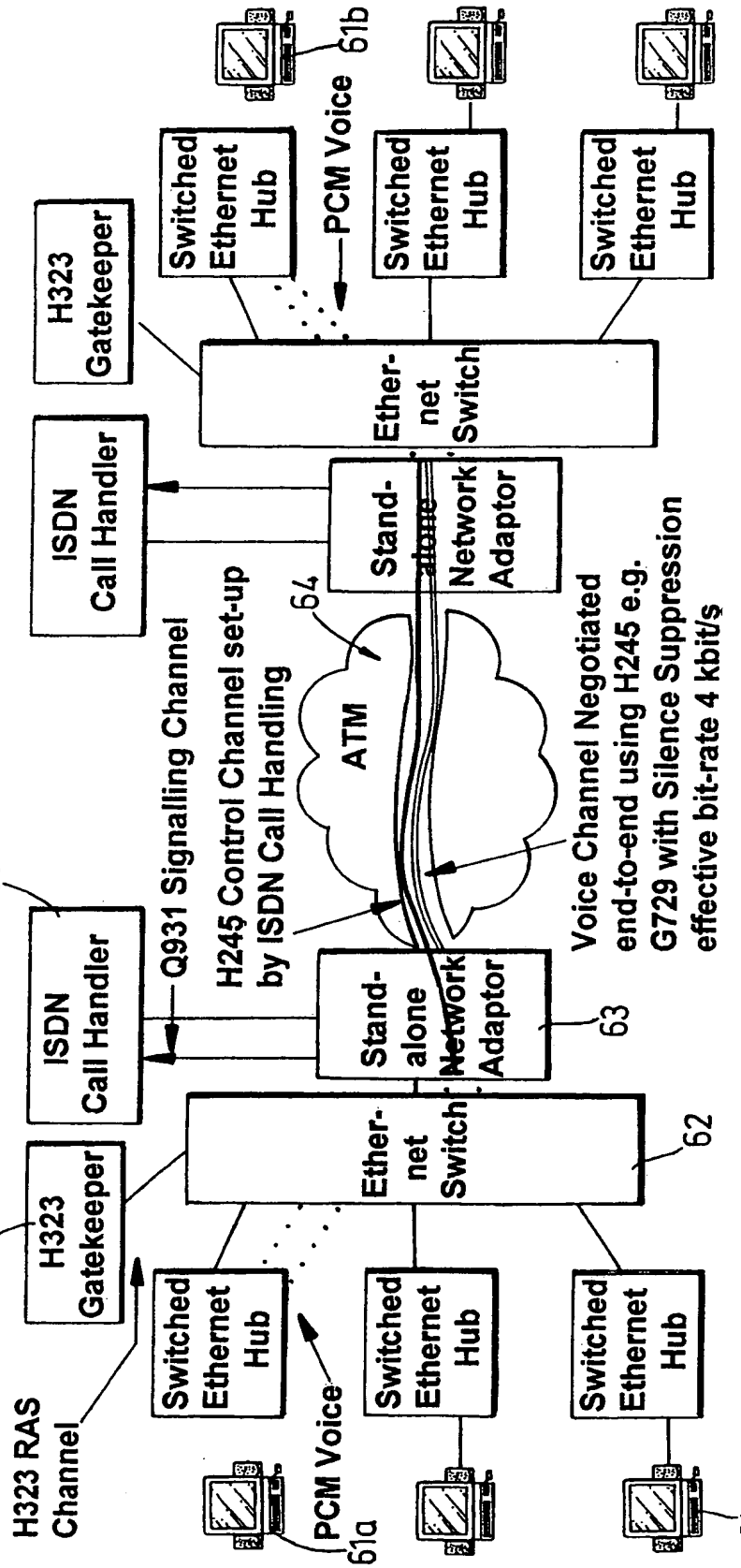
H323 RAS Channel
H323 Gatekeeper
65
Switched Ethernet Hub
PCM Voice
61a
Switched Ethernet Hub
Switched Ethernet Hub
61
Ether-net Switch
62
Stand-alone Network Adaptor
63
ATM
64
ISDN Call Handler
66
Q931 Signalling Channel
H245 Control Channel set-up by ISDN Call Handling
Voice Channel Negotiated end-to-end using H245 e.g. G729 with Silence Suppression effective bit-rate 4 kbit/s
ISDN Call Handler
Stand-alone Network Adaptor
Ether-net Switch
H323 Gatekeeper
Switched Ethernet Hub
PCM Voice
61b
Switched Ethernet Hub
Switched Ethernet Hub

Fig. 13

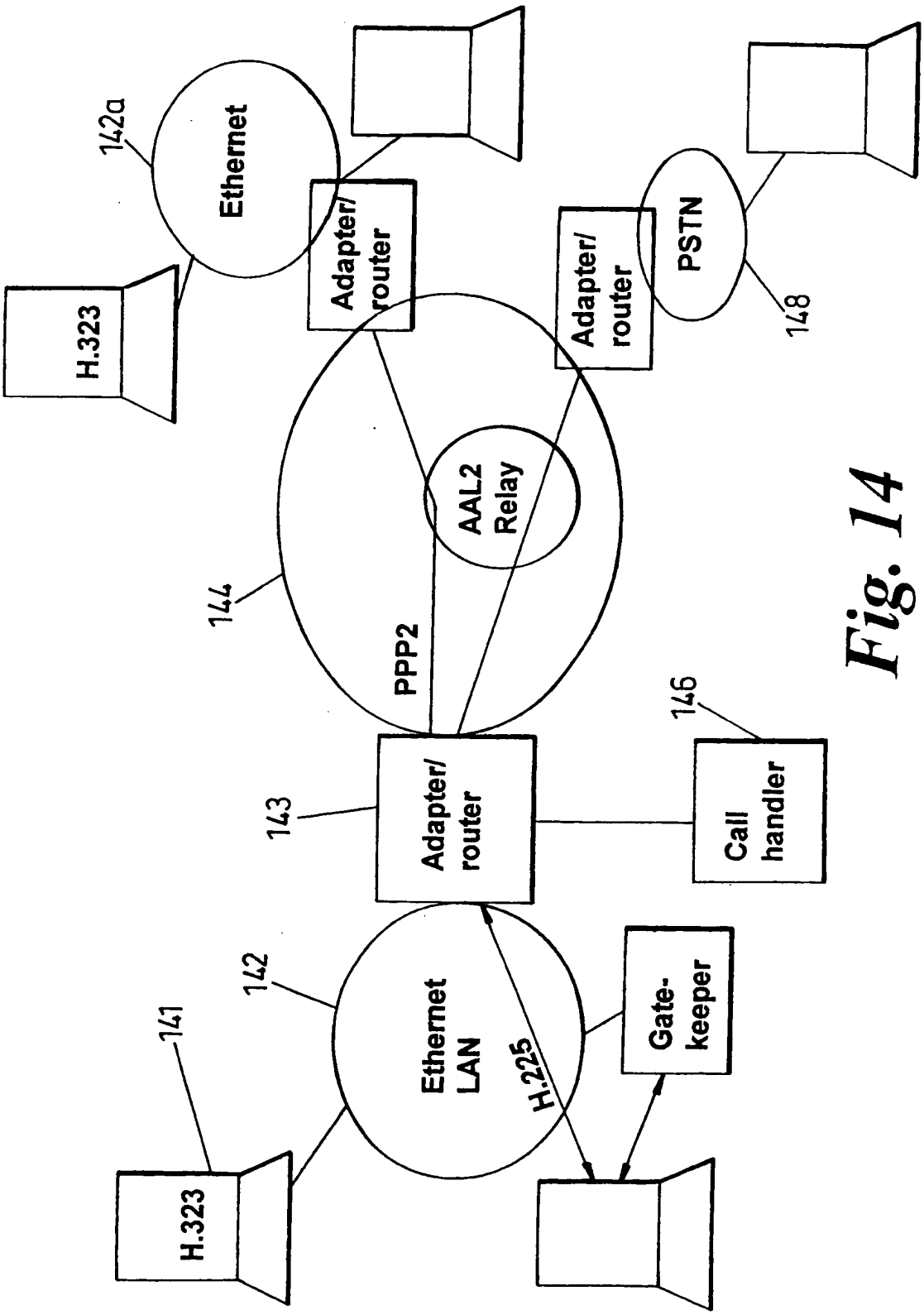
142a
Ethernet
H.323
Adapter/
router
Adapter/
router
PSTN
148
144
AAL2
Relay
PPP2
143
Adapter/
router
146
Call
handler
142
Ethernet
LAN
H.225
Gate-
keeper
141
H.323

Fig. 14